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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,370	03/26/2004	Marcel P. Breton	D/A2177D	1247
25453	7590	05/06/2005	EXAMINER	
PATENT DOCUMENTATION CENTER XEROX CORPORATION 100 CLINTON AVE., SOUTH, XEROX SQUARE, 20TH FLOOR ROCHESTER, NY 14644			BALASUBRAMANIAN, VENKATARAMAN	
			ART UNIT	PAPER NUMBER
			1624	

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/810,370	BRETON ET AL
	<b>Examiner</b>	<b>Art Unit</b>
	Venkataraman Balasubramanian	1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 09 March 2005.

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) 2,15,16 and 19 is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1,3-14,17 and 18 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/26/04.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_ .

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I, in the reply filed on 3/9/2005, is acknowledged. Claims 2, 15, 16 and 19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Group II. Claims 1, 3-14, 17 and 18 will be examined to the extent they embrace the elected subject matter.

The traversal is on the ground(s) that the patent classification system has been developed primarily for convenience and that separate classification within this system is not indicative of distinctness for the purpose of restriction requirement. Applicants' traversal is not found persuasive for the following reasons.

First of all, contrary to applicants' urging, the patent classification system is not primarily for convenience. The classification system is based on sound scientific basis that structurally different compounds are distinct and independent and are therefore to be classified accordingly. Classifying a structural core of the compound into class and its subclass permits searching the specific structural core in the database without searching the entire database. Like wise, searching a particular core does not result in searching structurally different core. In the instant case searching the triazine core would not result in search for the open chain urea core. Thus, one can, by searching specific class/subclass, assess patentability of a specific core bearing other substituents more thoroughly because of the distinct and independent nature of the compound bearing the specific structural make-up.

Secondly, according to MPEP § 803, there are two criteria for a proper requirement for restriction between patentably distinct inventions:

- (A) The inventions must be independent or distinct as claimed and
- (B) There must be a serious burden on the examiner if restriction is required.

As noted in the previous office action, instant Group I and group II are directed to dissimilar compounds with varying cores namely triazine vs open chain urea cores. Group I and II require mutually exclusive search if a thorough search is intended. Classification of Group I is controlled by triazine core not the urea core and hence searching in elected Group I, would not lead to compounds not having a triazine core in this case urea core. Each class/subclass has to be searched in patent database East or West. It is mandatory. There is a serious search burden as several classes and subclasses are to be searched. In addition, the compounds bearing triazine is independent of compound bearing urea core. They are made differently. This clearly evident from the process claims 18 (triazine) and process claim 19 (urea).

Applicants have not submitted evidence or identified such evidence now of record showing the core group to be obvious variants or clearly admitted on the record that all core groups embraced in the instant inventions are equivalent. In which case examiner needed not search all cores. A prior art which anticipates any one of the groups embraced by a specific core (i.e. choices of I or II) may then render the other core group an obvious variant. In other words, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

In want of such assertion or evidence, it is held that the compounds of Group I and Group II are distinct and independent and searching the entire core would be serious search burden.

The requirement is still deemed proper and is therefore made FINAL.

***Information Disclosure Statement***

References cited in the Information Disclosure Statement, filed on 3/26/2004, are made of record.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-14, 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Recitation of "compounds" in claims 1 and 3-18 renders these claims indefinite as it is not clear whether a mixture of compounds as in a composition is claimed or a single compound form the group of compounds being claimed. An appropriate correction or clarification is needed.

2. Claim 7 is indefinite as it recites " wherein the substituents are hydroxyl...". It is not clear what substituents are being referred to. Note claim 7 is dependent on claim 6 and claim 6 does not relate to such substituents. In addition number of substituents recited in the claim 7 are not fully defined and hence their structural make-up remain unknown. For example, claim 7 recite "phosphine" which is a trivalent group. What else

is appended to this group to meet the valence requirements is not clear. There are several such generic recitation of substituents, which renders this claim indefinite.

3. Claim 7 is also an improper claim. It includes substituents which not recited in claim1 on which claim 7 is ultimately dependent.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-11 and 18 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for triazine compound of formula shown in claim 1 wherein Z and Y are NR<sub>1</sub>R<sub>2</sub> and that there are no reactive substituents as positively recited in claim 7, does not reasonably provide enablement for compound of formulae shown in claim 1 wherein Z and Y are OR<sub>1</sub> or SR<sub>1</sub> and the compound is variously substituted with functional groups and reactive groups which are susceptible to the process embraced in claim 18. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The following apply:

In evaluating the enablement question, following factors are considered. Note *In re Wands*, 8 USPQ2d 1400 and *Ex parte Forman*, 230 USPQ 546. The factors include: 1) The nature of the invention, 2) the state of the prior art, 3) the predictability or lack thereof in the art, 4) the amount of direction or guidance present, 5) the presence or absence of working examples, 6) the breadth of the claims, and 7) the quantity of experimentation needed.

1. The nature of the invention and the state of the prior art:

The process claim 18 is drawn to a process of reacting a cyanuric halide with compound of formula shown in claim 18 and then with one or more amines of formulae  $NR_1R_2$  and  $NR_3R_4$  and thereby generating compound of formulae shown in claim 1 wherein Z and Y includes besides the above said amines,  $OR_1$  and  $SR_1$  it is not clear how would one arrive at such substituents  $OR_1$  and  $SR_1$  for Z and Y by reacting cyanuric halide with amines. Specification is therefore not adequately enabled as to how to make compounds of formulae shown in claim 1 using the process of claim 18. In addition, as stated above, claim 7 includes substituents which are reactive functional groups which are prone react with amines  $NR_1R_2$ ,  $NR_3R_4$ ,  $OR_1$  and  $SR_1$ . For example, claim 7 includes as substituents, cyanato, isocyanato, thiocyanato, azido, acid anhydride, phosphine etc. and these groups also can undergo nucleophilic attack with  $NR_1R_2$ ,  $NR_3R_4$ ,  $OR_1$  and  $SR_1$ . Specification offers no teachings or suggestion as to how to perform the instant process in presence of these reactive groups. Thus presence of such reactive groups are chemically incompatible the process of claim 18. Specification is therefore not adequately enabled to make these class of compounds.

2. The predictability or lack thereof in the art:

Hence the process as applied to the above-mentioned compounds claimed by the applicant is not an art-recognized process and hence there should be adequate enabling disclosure in the specification with working example(s).

4. The amount of direction or guidance present:

Examples I-VII, XIII-XVIII illustrated in the experimental section or written description offer no guidance or teachings as to how perform the process of making compound of formulae shown in claim 1 when reactive substituents or chemically incompatible substituents are present in the starting material and/ or for compounds wherein Z and Y are OR<sub>1</sub> and SR<sub>1</sub>.

5. The presence or absence of working examples:

Although examples I-VII, XIII-XVIII show the instant process, they are limited to triaminosubstituted triazine with no reactive functionality. There are no representative examples showing the viability of the process for plurality of reactive substituents embraced in the instant claims and/ or for compounds wherein Z and Y are OR<sub>1</sub> and SR<sub>1</sub>.

6. The breadth of the claims:

Specification has no support, as noted above, for millions and millions of compounds generically embraced in the claim language would lead to desired compound of formulae of claim 1 with said reactive groups and there is also no valid chemical reasoning for one trained in the art to expect that all these functional groups would be inert toward the nucleophilic NR<sub>1</sub>R<sub>2</sub>, NR<sub>3</sub>R<sub>4</sub>, OR<sub>1</sub> and SR<sub>1</sub> embraced in the process claim.

7. The quantity of experimentation needed:

The quantity of experimentation needed would be an undue burden on skilled art in the chemical art since there is inadequate guidance given to the skilled artisan for the many reasons stated above. Even with the undue burden of

experimentation, there is no guarantee that one would get the product of desired structure, namely compound of formula I embraced in the instant claims in view of the prior art teachings. See US Patents cited in the IDS.

Thus, factors such as "sufficient working examples", the "level of skill in the art and predictability, etc. have been demonstrated to be sufficiently lacking in the case for the instant claims.

MPEP 2164.01(a) states, "A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation. In re Wright, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)." That conclusion is clearly justified here. Thus, undue experimentation will be required to make Applicants' invention.

### ***Conclusion***

Any inquiry concerning this communication from the examiner should be addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (571) 272-0662. The examiner can normally be reached on Monday through Thursday from 8.00 AM to 6.00 PM. The Supervisory Patent Examiner (SPE) of the art unit 1624 is Mukund Shah whose telephone number is (571) 272-0674. If Applicants are unable to reach Mukund Shah within 24-hour period, they may contact James O. Wilson, Acting-SPE of art unit 1624 at 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned (703) 872-9306. Any inquiry of a

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general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAG. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-2 17-9197 (toll-free).

*Venkataraman Balasubramanian*  
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5/01/2005